

(No Model.)

A. L. FREUND.
BED PAN.

2 Sheets—Sheet 1.

No. 435,058.

Patented Aug. 26, 1890.

Fig. 1.

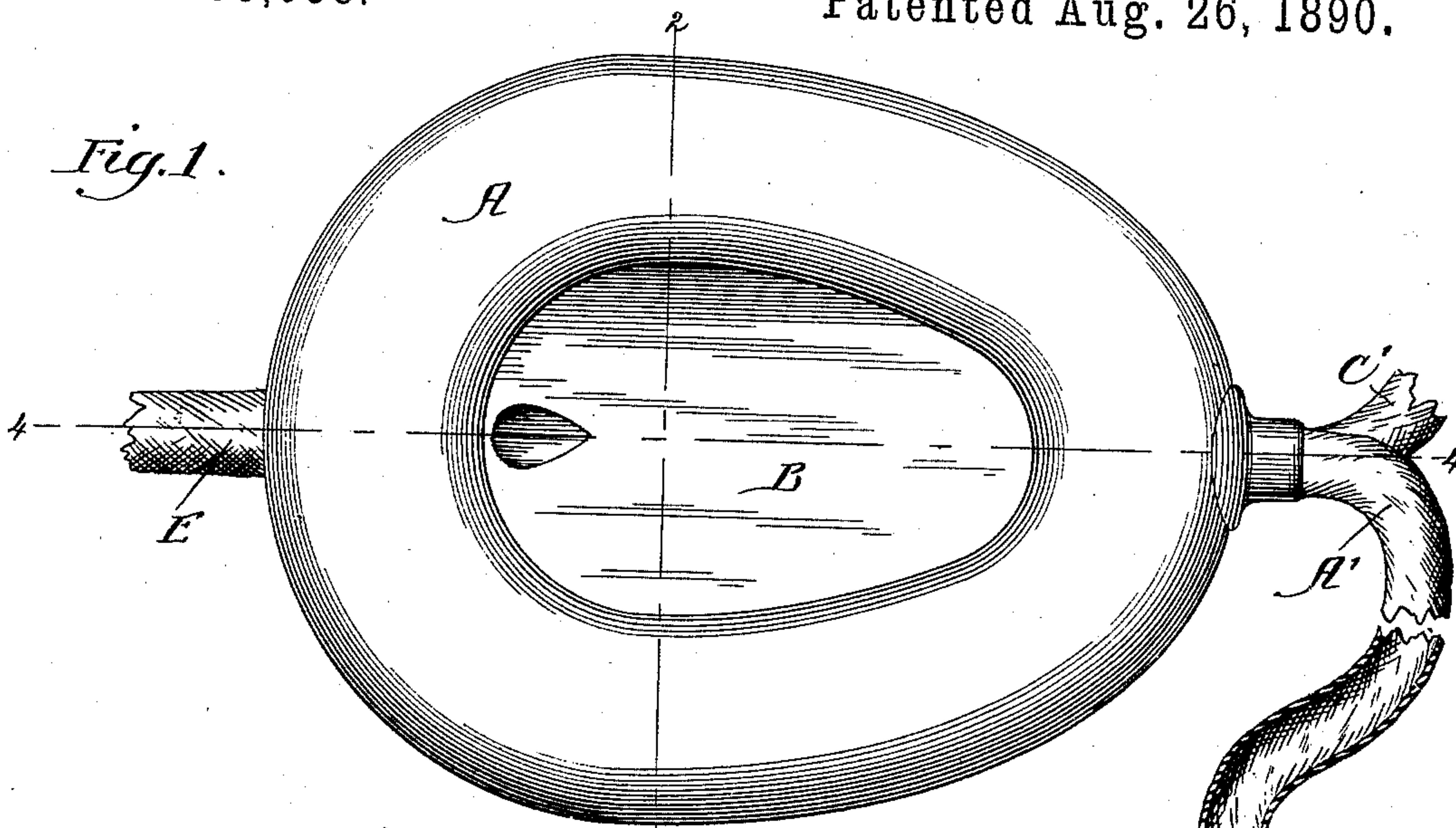


Fig. 2.

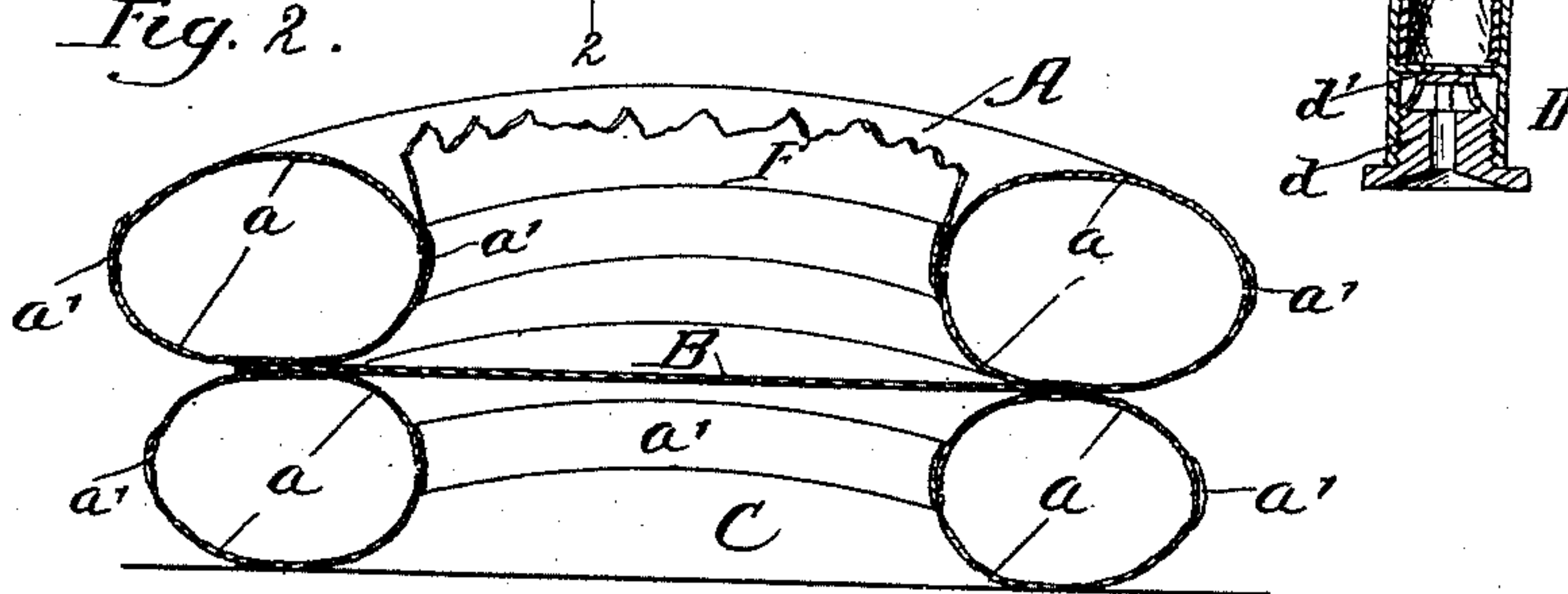
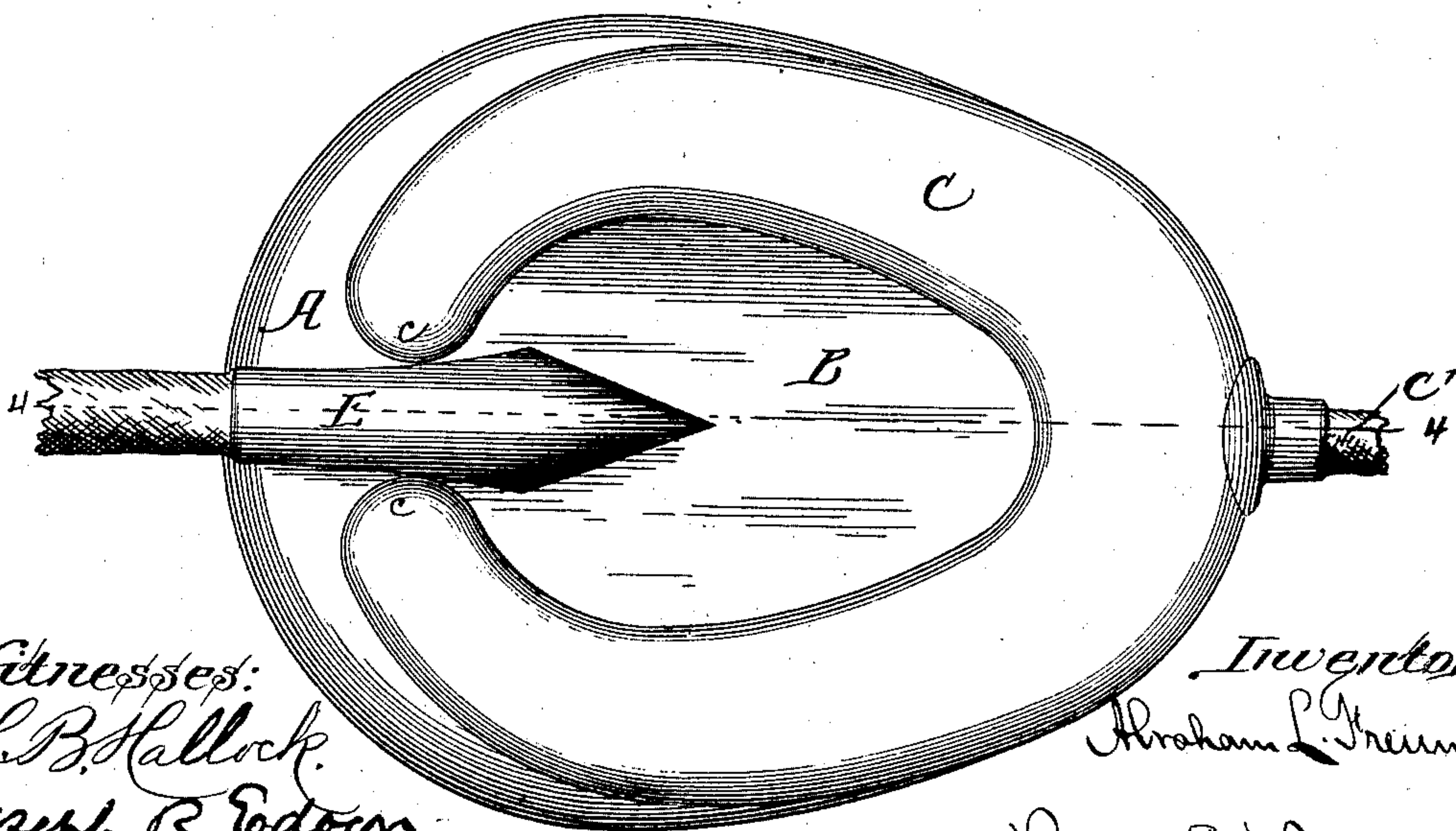


Fig. 3.



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Fig. 4.

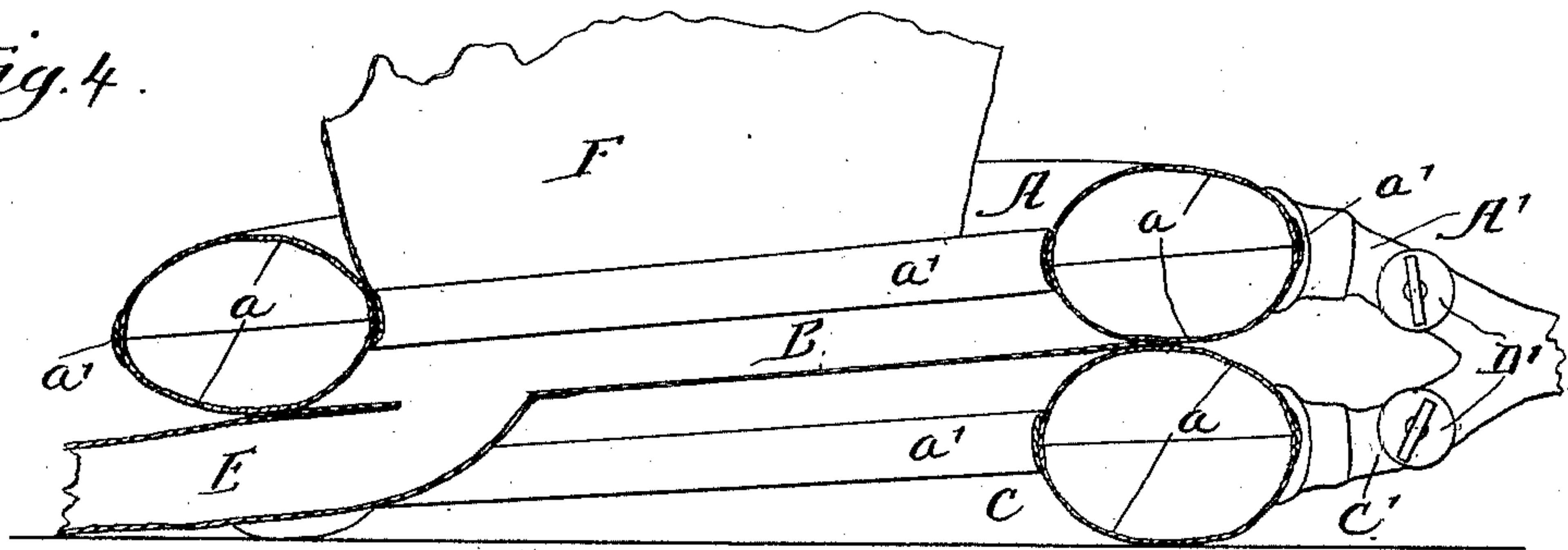


Fig. 7.

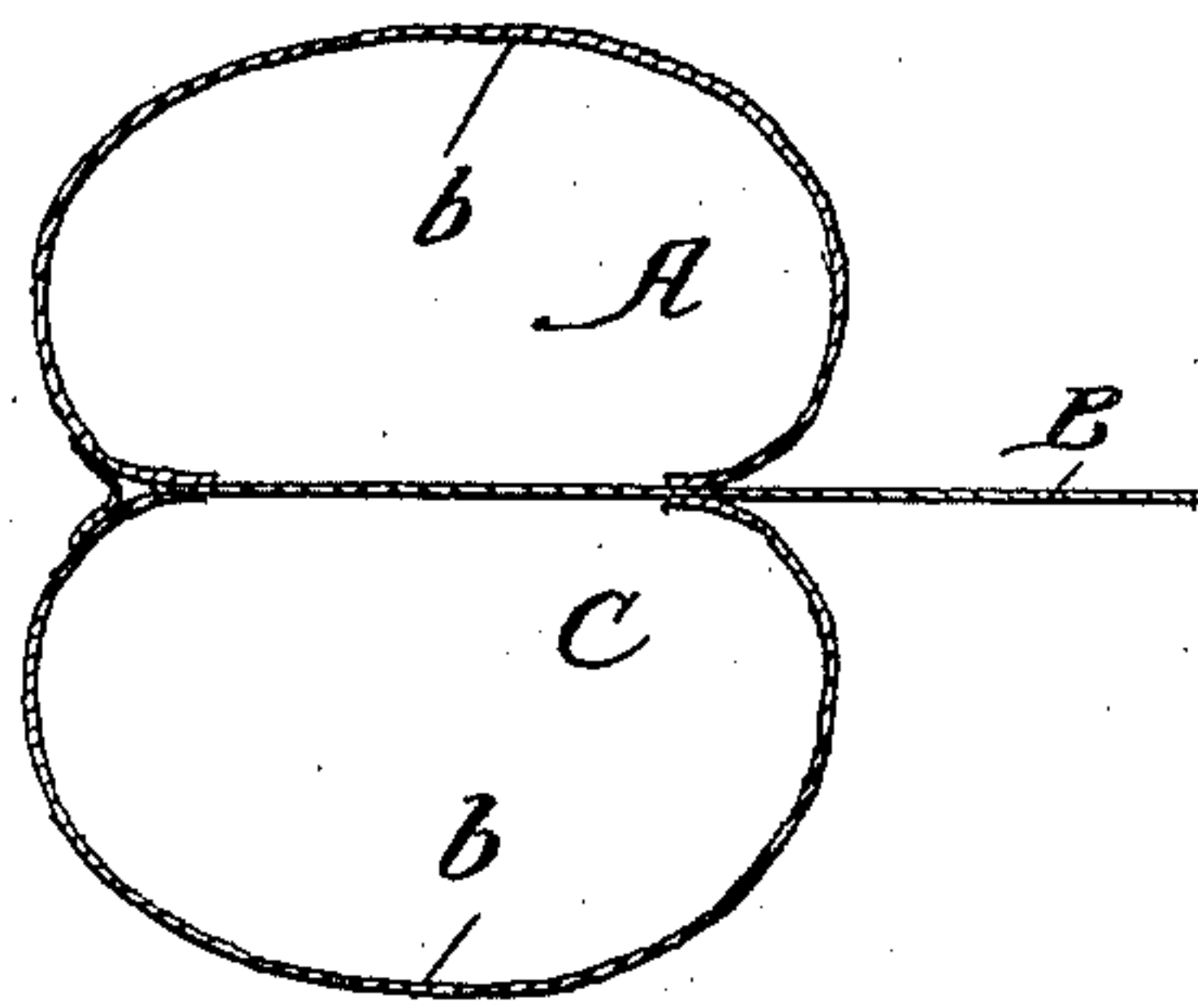


Fig. 6.

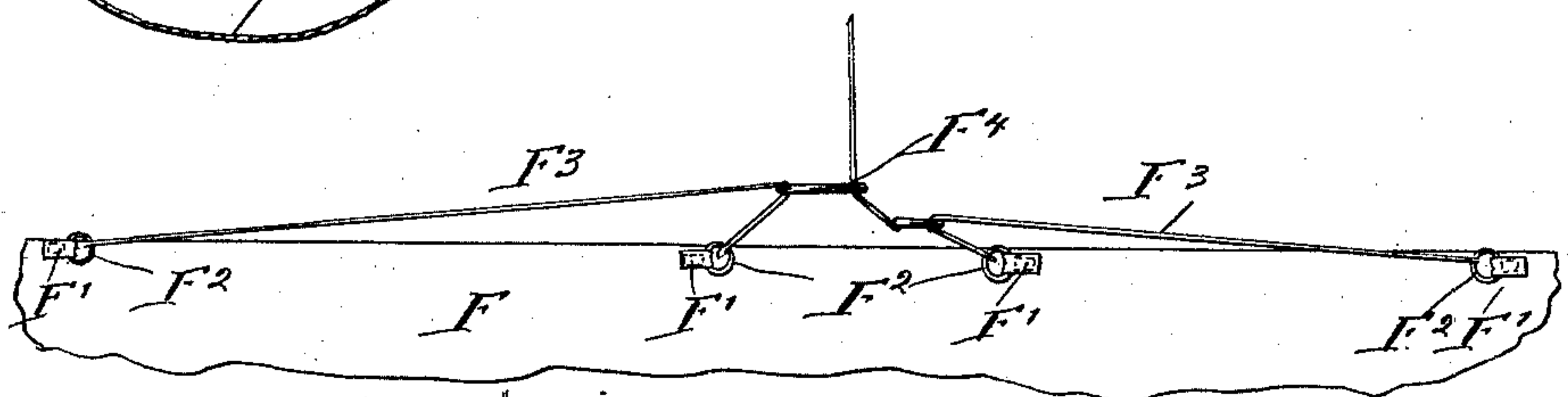
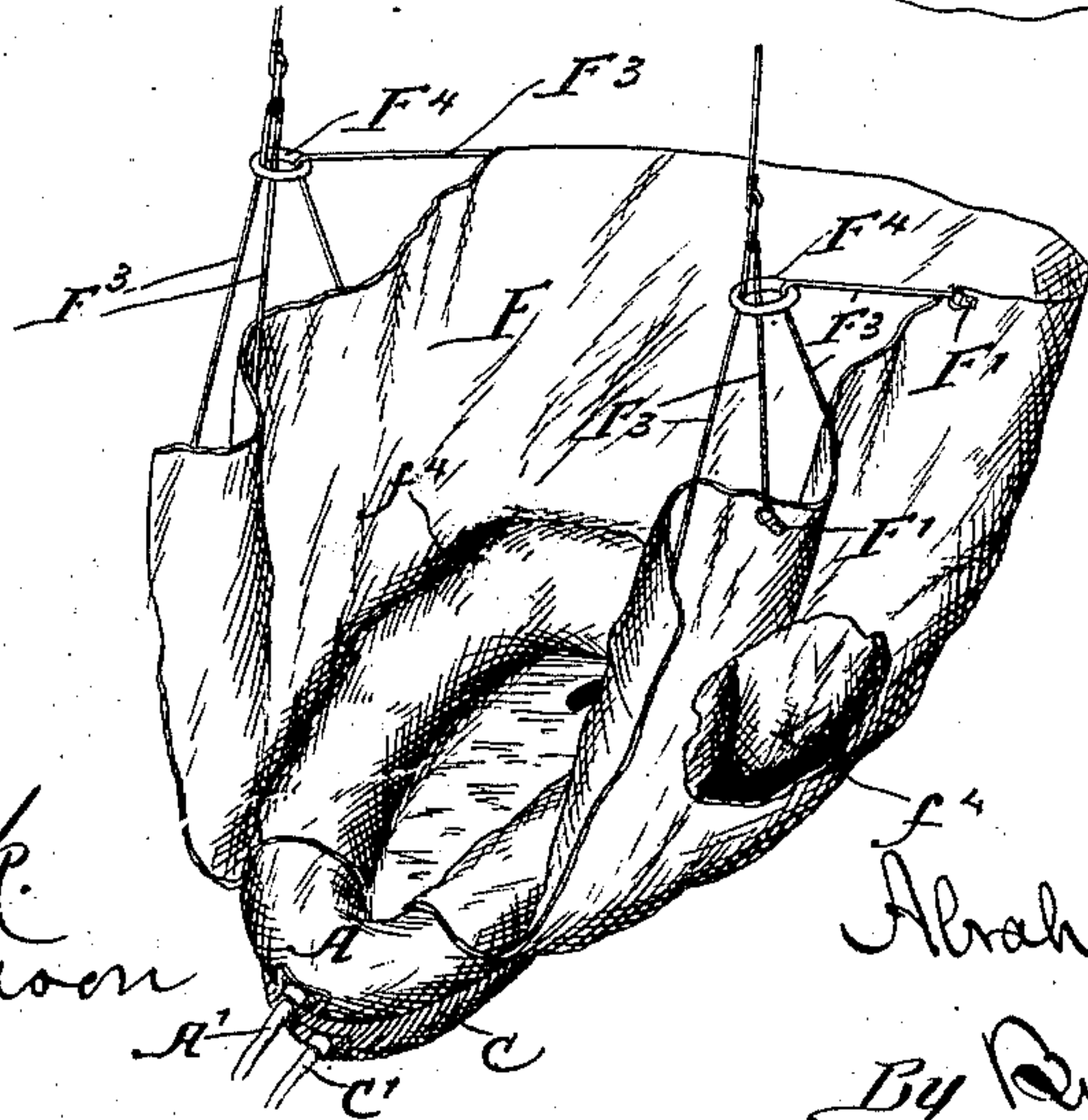


Fig. 5.



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UNITED STATES PATENT OFFICE.

ABRAHAM L. FREUND, OF CHICAGO, ILLINOIS.

BED-PAN.

SPECIFICATION forming part of Letters Patent No. 435,058, dated August 26, 1890.

Application filed September 2, 1889. Serial No. 322,769. (No model.)

To all whom it may concern:

Be it known that I, ABRAHAM L. FREUND, a citizen of the United States, residing at Chicago, county of Cook, and State of Illinois, have invented certain new and useful improvements in Bed-Pans, which are fully set forth in the following specification, reference being had to the accompanying drawings, forming a part thereof.

10 In the drawings, Figure 1 is a plan with a certain apron pertaining to the device removed. Fig. 2 is a vertical section at the line 2 2 on Fig. 1. Fig. 3 is a bottom plan. Fig. 4 is a section at the line 4 4 on Fig. 3. Fig. 5 is a perspective of the entire device in the position of use. Fig. 6 is a detail plan showing the arrangement of certain draw-strings by which the apron is designed to be held in place in use. Fig. 7 is a section like Fig. 2 of a modified form.

The purpose of this invention is to diminish the danger of overflow and increase the facility of drainage.

25 The structure is made up of four principal parts besides the inflation and discharge tubes. A is a marginal elastic cushion, which constitutes the inclosing wall of the pan proper; B, a diaphragm of flexible material, preferably rubber sheet, which forms the bottom of the pan proper. C is a marginal elastic cushion, which is located underneath the diaphragm and directly in line below the upper marginal elastic cushion A, and constitutes the base or support of the device. Both the 35 cushions A and C are preferably air-cushions, made of rubber and designed to be inflated to adapt them for use. They are each therefore provided with inflation-tubes A' and C', respectively. Both of these tubes are preferably connected to their cushions at the forward end. They may be joined to a single mouth-piece D, so as to be inflated simultaneously; but since it may in some cases be desirable to inflate only one cushion they 45 should in that case be each provided with a valve D', to be closed when either one is not to be inflated. A mouth-piece D should in any case be provided for each tube when they are not connected. The construction of this 50 mouth-piece is familiar, comprising a valve d, which may be screwed down to close the

orifice through its seat d' when the inflation is complete.

E is a discharge-tube. It is connected with the pan at the rear end. It is secured between 55 the upper cushion A and the diaphragm B, and is made sufficiently hard or stiff to resist to a considerable degree compression which would restrict its aperture. The lower cushion C is not made continuous around the 60 margin of the pan, but is interrupted at the rear, at the point c, to allow the discharge-pipe E space between the ends of the cushion C. The cushion C is also different from the cushion A, in that it tapers somewhat from the 65 front to the rear on both sides. This taper may be only in respect to the vertical dimensions of the cushion, and at the rear diminished ends its vertical diameter when fully inflated is designed to be at least as great as 70 that of the discharge-pipe, which lies between said ends, so that the cushions will protect the discharge-pipe from the effect of the pressure exerted by the weight of the patient, which would tend to compress the pipe but 75 for such protection.

A purpose served by tapering the cushion C as described is that thereby the rear end of the diaphragm forming the bottom of the pan is lower than the front, so that the drainage of the pan is rendered certain to be rearward toward the discharge-pipe. The same effect is measurably insured by making the discharge at the rear, because the weight of the patient will be more exerted upon the 85 rear than upon the forward part, so that even if the supporting-cushion C were not tapered the greater compression to which it is subjected at the rear would tend to lower the rear end of the bottom of the pan. 90

I provide, in addition to the devices already described, the apron F, which is joined to the inner edge of the upper marginal cushion A, extending for about half the circumference of the same—that is, around the rear and 95 about half the way forward on each side. This apron is constructed from plain rubber sheet of light weight, a recess or notch being cut in one edge to conform to the contour of the inner edge of the cushion A at that portion with 100 which the apron makes junction, as above described. It is of such dimensions as to be

adapted to be folded up about the body of the patient under the arms and to extend around the body.

In order to enable the patient or attendant to draw the apron into proper place, I attach to its lateral edges the loops F' F' —two upon each side—and upon each loop I place a ring or slip-loop F^2 , and through both rings on each side I pass a draw-string F^3 . This draw-string may, if preferred, be fastened to one of the rings and reeved through the other. Both draw-strings are long enough to be held by the patient or attendant in front, and are preferably both provided at the end with a stop-ring F^4 , to prevent them from running out of the slip-rings. When the draw-strings are pulled in front of the patient, the apron takes the shape shown in Fig. 5, forming the pockets f^4 f^4 , which depend rearward from the upper margins of the pan and have their sides sloping upward all around the exterior, so that any overflow that might occur through accident or accidental disturbance of the position of the patient will be received by these pockets. A drainage-pipe may, if desired, be provided connected to the point which will become the rear and lowest point of the pockets when it is in use, such drainage-pipe being, however, flexible and compressible, being designed simply as a means of emptying any such overflow from the pockets before attempting the removal of the device from the bed, and not being such as to create any liability of breaking or tearing the apron in handling or when folded for storage.

The mechanical details of construction of this device may largely be determined by the convenience of the rubber-manufacturer; but as I have designed and constructed the same each of the elastic cushions A and C is made of two pieces a a , whose edges abut and are secured by a lapping strip a' . The apron F is preferably joined to the upper cushion by being lapped under the strip a' between it and the upper piece a , all the parts being vulcanized together after being thus assembled. The diaphragm B in this construction is a plain piece of rubber sheet of oval form, corresponding to the contour of the pan, which laps the entire circumference of the upper cushion A on its under side and overlaps similarly the entire length of the under cushion C on its upper side. This diaphragm is also preferably assembled with the other parts, in the manner described, before vulcanizing, so that it is vulcanized with them, and its junction with the cushions thereby made the most secure possible.

Another form of construction may be adopted, and is illustrated in Fig. 7, wherein the diaphragm extends in a continuous piece through what would otherwise be a single air chamber or cushion formed by the pieces b b , one above and the other below the diaphragm, said diaphragm thus becoming the partition between the two air-chambers, which by reason of being thus separated operate as

independent cushions in the form above described.

An additional advantage of tapering the lower cushion is that thereby the upper margin of the pan is inclined down toward the rear, which causes the patient's body to assume a position favorable for the operation of irrigation, in connection with which such devices are most frequently employed.

I claim—

1. In a bed-pan, in combination with a marginal elastic cushion A, constituting the wall of the pan proper, a diaphragm B, underlying such cushion and constituting the bottom of the pan, an elastic marginal cushion C, located below the upper cushion A and constituting a support for the pan, and a discharge-pipe from the pan communicating therewith at the rear end of the pan, substantially as and for the purpose set forth.

2. In a bed-pan, in combination with a marginal elastic cushion A, constituting the wall of the pan proper, a diaphragm B, underlying such cushion and constituting the bottom of the pan, an elastic support for the pan, adapted to yield under pressure at any part of its extent, and a discharge-pipe for the pan leading therefrom at the rear end, substantially as and for the purpose set forth.

3. In a bed-pan, in combination with the pan proper, comprising the bottom and sides, a discharge-pipe leading therefrom at the rear, and an elastic support for the pan, adapted to yield at the rear under pressure, substantially as and for the purpose set forth.

4. In a bed-pan, in combination with the pan proper having the discharging-pipe leading therefrom at the rear and extending below the bottom of the pan, an elastic cushion constituting support for the pan, said support being provided with an interval at the rear at the locality of the discharge-pipe, substantially as and for the purpose set forth.

5. In a bed-pan, in combination with the pan proper, an elastic cushion C, underlying the pan around the margin and intermitted at the rear for a short distance, and the discharge-pipe E, leading from the pan at the rear and extending below the bottom thereof in said intermission of the marginal cushion, substantially as and for the purpose set forth.

6. In a bed-pan, in combination with the pan proper, a discharge-pipe leading therefrom at the rear, and an elastic cushion C, serving as a support for the pan, said cushion diminishing in vertical dimension from front to rear, substantially as and for the purpose set forth.

7. In a bed-pan, in combination substantially as set forth, the upper marginal elastic cushion A, the lower marginal elastic cushion C, diminishing in vertical dimension from front to rear and intermitted at the rear for a short distance, and the discharge-pipe E, leading from the pan at the rear and lying in the intermission in the lower cushion.

8. In a bed-pan, in combination with the upper marginal air-cushion A, provided with

an inflating-pipe, the lower marginal air-cushion C, also provided with an inflating-pipe, said air-cushions being non-communicating, so that they may be separately inflated,
5 the diaphragm B, secured between them and constituting the bottom of the pan proper, and the drainage-pipe E, leading from the pan at the rear end, substantially as set forth.

In testimony whereof I have hereunto set my hand, in the presence of two witnesses, at 10 Chicago, Illinois, this 24th day of August, 1889.

ABRAHAM L. FREUND.

Witnesses:

CHAS. S. BURTON,
H. B. HALLOCK.